

Application No. 10/630,478
Amdt. Dated December 13, 2006
Reply to Office Action of June 13, 2006

REMARKS/ARGUMENTS

1. Remarks on the Amendments

Applicants appreciate the Examiner's allowance of Claims 12-17 and 19-20.

Claims 1, 21 and 25 have been amended to more specifically define Applicants' claimed invention.

Antecedent basis for the amendment can be found in the Specification as filed. More specifically, the diameters of the expanders in relationship to the dental implant, as shown by the groove and thread formed by them in the expanded osseotomy site, can be found on page 16, line 21 to page 17, line 2 of the Specification as filed. Applicants respectfully submit no new matter has been introduced by the amendments.

2. Response to the Rejection of Claims 1-5, 8-11, 21, and 23-25 Based Upon 35 U.S.C. §103(a)

Claims 1-5, 8-11, 21, and 23-25, stand rejected under 35 USC §103(a) as being unpatentable over Porter et al (US Patent No. 6,887,077) in view of Lorenzi (2002/0094508). This rejection is respectfully traversed by the amendment.

Claims 1, 21 and 25 are independent claims, and Claims 2-5, 8-11, and 23-24 are dependent claims of Claims 1 and 21, respectively.

The applicable case law for a rejection under 35 U.S.C. §103 (a) has been discussed in the response to the first Office Action. In the interests of brevity, Applicants request the Examiner to consider that these materials are incorporated herein by reference.

(1) With regard to the amended Claims 1 and 25, Applicants submit that nothing in the art of record teaches or suggests the subject matter positively recited in amended Claims 1 and 25.

Application No. 10/630,478
Amdt. Dated December 13, 2006
Reply to Office Action of June 13, 2006

More specifically, Applicants' claimed method requires applying the expanders to impress an interior wall of the osseotomy site to form grooves and accompanying threads; wherein both the grooves and the threads are expanded substantially from the first diameter of the initial osseotomy site; and wherein both the grooves and the threads of the twice expanded osseotomy site are uniformly narrower than the diameters of complementary elements of the dental implant so that the twice expanded osseotomy site enables the implant to sufficiently bite into and uniformly engage with surrounding bone tissues.

As an example described in the instant application, the instant expanders can be made into the same threaded structure of the "Silhouette" dental implants manufactured by BioloK International, Inc., except the narrower outer diameter. The "Silhouette" dental implants have been described in detail in U.S. Patent No. 6,406,296, which was incorporated by reference to the instant application.

Using the method of the present invention, if a 4.5 mm "Silhouette" dental implant with a difference of 0.76 mm (i.e., 0.03 inch, Column 5, lines 15-17 of 6,406,296) between the major diameter and the minor diameter is to be implanted, an osseotomy site of 4.0 mm will be obtained using two instant expanders. With the same threaded structure, the last expander to be used has the major and minor diameters of 4.0 mm and 3.24 mm. If the dentist starts with a 2.5 mm pilot drill, by using a first expander of 3.1 mm and the second expander of 4.0 mm as described in the Specification, the dentist will achieve an expanded osseotomy site, wherein the interior wall forms grooves of 4.0 mm (impressed by the thread or the major diameter of the expander) and accompanying threads of 3.24 mm in diameter (impressed by the groove or minor diameter of the expander). As such, both the grooves and the threads in the obtained osseotomy site are substantially expanded from the first diameter of 2.5 mm created by the pilot drill. Furthermore, both the grooves and the threads in the obtained osseotomy site are 0.5 mm narrower than the diameters of complementary elements of the dental implant, i.e., uniformly narrower.

As pointed out by the Examiner, in Porter et al the only bone that is expanded is the bone at the thread (major diameter) of his tool.

Application No. 10/630,478
Amdt. Dated December 13, 2006
Reply to Office Action of June 13, 2006

Applicants more specifically point out that Porter et al fail to teach expanding both the grooves and the accompanying threads in the osseotomy site in Applicant's claimed expansion process. On the contrary, Porter et al specifically teach that the minor diameter of the thread 60 of the compression tab is the same diameter or slightly smaller than the diameter of the cylindrical portion 32 of the shaping drill 30 (Column 4, lines 22 to 28). Therefore, the minor diameter (groove portion) of Porter et al's compression tab is not capable to expand the osseotomy site, nor Porter et al intend to. Therefore, Port et al teach away from Applicant's claimed method.

Porter et al specifically teach that their 4.5 mm dental implant has a minor diameter of 3.5 mm (Column 3, line 24 to line 38). As suggested in the reference, a compression tab of 4.0 mm (major diameter) can be used for this implant. Since the shaping drill has an outer diameter same as the minor diameter of the implant (Column 3, lines 58 to 65 and Column 4), a 3.5 mm shaping drill is used to create a 3.5 mm bore. At the same time, since the minor diameter of the thread of the compression tab is the same as, or slightly smaller than, the diameter of the shaping drill, the 4.0 mm compression tab has a minor diameter of 3.5 mm or less. As such, the grooves formed on the interior wall of the osseotomy site are 4.0 mm in diameter and the accompanying threads (not compressed by the compression tab) are 3.5 mm in diameter. Therefore, the grooves and the threads formed in the bore are not uniformly narrower than the diameters of complementary elements of the implant as claimed in the instant method. Instead, Porter et al's device and method could only, and intend to, create the grooves and the threads in the bore not uniformly narrower than the diameters of complementary elements of the implant. Therefore, in terms of the result of the expansion, Porter et al also teach away from Applicants' claimed method.

Porter et al's deficiencies are not overcome by Lorenzi.

It is apparent that a combination of Lorenzi's markings and interface for wrench with Porter et al.'s compression tap, as suggested by the Examiner, does not result in Applicant's claimed method defined by amended Claims 1 and 25.

Therefore, based on the prior art's teachings, one skilled in the art would not be

Application No. 10/630,478
Amdt. Dated December 13, 2006
Reply to Office Action of June 13, 2006

motivated to combine the references, in the manner suggested by the Examiner, to obtain Applicants' claimed invention, without a reasonable expectation of success.

(2) With regard to Claim 21, Applicant maintains that nothing in the art of record teaches or suggests the subject matters positively recited in amended Claim 21.

Porter et al fail to teach Applicants' claimed top, shaft having depth markings and the transition. Porter et al further fail to teach the threaded expansion tip of each expander of the kit has a same length and a substantially same threaded structure to the threaded structure of the dental implant.

More importantly, Porter et al fail to teach the threaded expansion tip having diameters uniformly narrower than those of corresponding elements of said dental implant.

Applicants respectfully point out that Porter et al teach away from Applicants' claimed invention defined by Claim 21. More specifically, Porter et al teach that the major diameter of the compression tab is smaller than the major diameter of the thread of the implant. On the other hand, Porter et al teach that the minor diameter of the compression tab is the same or slightly less than the diameter of the shaping drill, and the diameter of the shaping drill is substantially the same as the minor diameter of the implant. In other words, the minor diameter of the compression tab is the same or slightly less than the diameter of the implant. Therefore, Porter et al's compression tabs do not have, and should not have, diameters uniformly narrower than those of corresponding elements of the implant.

Porter et al's deficiencies are not overcome by Lorenzi as described above.

Based on the prior art's teachings, one skilled in the art would not be motivated to combine the references, in the manner suggested by the Examiner, to obtain Applicants' claimed invention, without a reasonable expectation of success.

Therefore, Applicants maintain that Applicants' claimed invention defined by amended Claims 1, 21 and 25 is not obvious in view of the art of the record.

Application No. 10/630,478
Amdt. Dated December 13, 2006
Reply to Office Action of June 13, 2006

(4) With regard to Claims 2-5, 8-11 and 23-24, as described above, these claims are dependent upon independent Claims 1 and 21, respectively. Under the principles of 35 U.S.C. §112, 4th paragraph, all of the limitations of each independent claim are recited in its respective dependent claims. As described above, independent Claims 1, 21 and 25 are unobvious in view of the prior art of record, as such Claims 2-5, 8-11 and 23-24, are submitted as being allowable over the art of record.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 1-5, 8-11, 21, and 23-25, based upon 35 U.S.C. §103(a).

It is respectfully submitted that in addition to the allowed Claims 12-17 and 19-20, Claims 1-5, 8-11, 21 and 23-25, are now in condition for allowance and such action is respectfully requested.

Applicants' Agent respectfully requests direct telephone communication from the Examiner with a view toward any further action deemed necessary to place the application in final condition for allowance.

12/13/2006
Date of Signature

By: 
YI LI
Registration No. 44,211

Please address all correspondence to:

Melvin K. Silverman
500 Cypress Creek Road
Suite 500
Fort Lauderdale, Florida 33309
Telephone: (954) 351-7474
Facsimile: (954) 492-0087